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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,787	02/20/2002	Akira Kato	36856.618	3633

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EXAMINER

NGUYEN, HIEP

ART UNIT PAPER NUMBER

2816

DATE MAILED: 03/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,787

Applicant(s)

KATO, AKIRA

Examiner

Hiep Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6,10,17 and 18 is/are rejected.
- 7) ☐ Claim(s) 2-4 and 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species of the claimed invention:

- a. Species A, corresponding to figures 1 or 5; claims 1-10, 17 and 18.
- b. Species B, corresponding to figure 9; claims 11-16 and 19.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

During a telephone conversation with Attorney Bennett, Christopher (Reg. 46,710) on 03-31-03 provisional election was made to prosecute the invention of an oscillator device, claims 1-10, 17 and 18.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-16 and 19 are therefore withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recitation "an inductor" in claims 1 and 6, "An electronic apparatus" in claims 17 and 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and/or clarification is required.

Regarding claims 17 and 18, the recitation "An electronic apparatus" is indefinite because it is unclear what the "An electronic apparatus" is. This "An electronic apparatus" is not found in the drawings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Rinderle et al (US Pat. 5,732,344).

Regarding claim 1, figure 1 of Rinderle shows an oscillator device comprising:

an oscillation circuit including an NPN oscillation transistor (T1) and a buffer amplifier circuit including a PNP buffer amplifier transistor (T2); wherein the NPN oscillation transistor and the PNP buffer amplifier transistor are connected in series to a power supply;

a collector of the NPN oscillation transistor (T1) is connected to a power terminal and is AC-grounded;

a base of the PNP buffer amplifier transistor (T2) is AC grounded (via LO);

at least one of a resistor and an inductor (Z8) is connected between a collector of the PNP buffer amplifier transistor (T2) and the ground;

the collector of the PNP buffer amplifier transistor (T2) is AC-connected to an output terminal; and

an emitter of the NPN oscillation transistor (T1) and an emitter of the PNP buffer amplifier transistor (T2) are directly connected. Note that in the ERCA method of circuit

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analysis (equivalent resistance circuit analysis) for AC signal, the power terminal is considered to be AC ground.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinderle et al (US Pat. 5,732,344).

Regarding claims 5 and 10, figure 1 of Rinderle et al includes all the limitation of the present application except for the limitation that the NPN and PNP transistors are integrated in a single package. However, it is old and well known that components connected together in a single integrated circuit have short and direct connection thus, noise and power loss are minimized. Therefore, it would have been obvious to those skilled in the art to have the PNP and NPN transistors of Rinderle fabricated in a same IC circuit for the purpose of minimizing noise and power loss.

Regarding claim 6, figure 1 of Rinderle et al includes all the limitation of the present application except for the limitation that the oscillation transistor is a PNP type transistor and the buffer amplifier transistor is a NPN type transistor. However, it is old and well known when the polarities of the power supply change, types of transistors must be changed for proper biasing. Therefore, it would have been obvious to those skilled in the art to change the type of the oscillation transistor from NPN type to PNP type and to change the buffer amplifier transistor from PNP type to NPN type transistor, in figure 1 of Rinderle, if the polarities of the power supply is to be reversed for proper biasing.

Allowable Subject Matter

Claims 2-4 and 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2 and 7 are objected because the prior art of record fails to teach or fairly suggested an oscillator comprising a resistor network that provides bias voltages to the bases of the PNP and NPN transistors

Claims 3 and 8 are objected because the prior art of record fails to teach or fairly suggested an oscillator comprising a crystal oscillator coupled between the base of the oscillation transistor and the ground and a capacitor coupled to the crystal oscillator.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Hiep Nguyen whose telephone number is (703) 305-0127. The examiner can normally be reached on Monday to Friday from 7:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-6251.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Hiep Nguyen
03-24-03



TUAN T. LAM
PRIMARY EXAMINER